

## Irisin Protein, Human/Mouse/Rat, Recombinant (hFc)

### General Information

Synonyms:	Irisin;FNDC5;Fibronectin type III repeat-containing protein 2;Fibronectin type III domain-containing protein 5
Protein Construction:	Asp32-Glu143
Species:	Human,Mouse,Rat
Expression Host:	HEK293 Cells
Accession:	A0A0A0MRR6
Molecular Weight:	50-60 KDa (reducing condition)
AA Sequence:	Asp32-Glu143

### QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/μg (1 EU/μg) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Fibronectin type III domain-containing protein 5, the precursor of irisin, is a protein that is encoded by the FNDC5 gene. Human Irisin is synthesized as a 212 amino acid (aa) precursor encoding a type 1 transmembrane protein with a 121 aa extracellular domain (ECD), a 21 aa transmembrane domain, and a 39 aa cytoplasmic domain. The ECD of Irisin contains a fibronectin type III domain and multiple glycosylation sites. The ECD is proteolytically cleaved to release the 112 aa soluble Irisin hormone into circulation. Mature human, mouse share 100% sequence

identity. Irisin induces expression of peroxisome proliferator-activated receptor  $\gamma$  coactivator 1 $\alpha$  (PGC1 $\alpha$ ) and uncoupling protein 1 (UCP1), mitochondrial-associated metabolic proteins. Irisin induces the transition of white adipose tissue into more metabolically active beige adipose tissue. Irisin also regulates neuronal cell differentiation and neurite outgrowth in the brain and is involved in the differentiation of osteoblasts.

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Tel: 781-999-4286    E\_mail: info@targetmol.com    Address: 34 Washington Street, Wellesley Hills, MA 02481